REMARKS

Favorable consideration and allowance of the above-captioned

application is allowed. Claims 3, 4 and 7-9 are presented for

examination.

Respectfully Submitted,

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MARKED-UP VERSION OF AMENDMENT

IN THE SPECIFICATION:

Please amend the paragraph beginning on page 1, line 21 as follows:

A major problem with this configuration is that interexchange carriers attempting to penetrate the local telephone company's territory must lease trunk lines from the local telephone company switch to the interexchange company's network for digital traffic. Furthermore, the Internet service provider must lease a modem from the local phone company in the DSLAM switch and route its data through the local phone company's digital switch. Thus, the local phone company leases and/or provides a significant amount of equipment, driving up the cost of entry for any other company trying to provide local telephone services and making it difficult for the interexchange companies to differentiate their services. Furthermore, since DSL modem technology is not standardized, in order to ensure compatibility, the DSL modem provided by the local telephone company must also be provided to the end user in the customer premises equipment (CPE). Additionally, since the network is not completely controlled by the interexchange companies, it is difficult to for the interexchange companies to provide data at committed ~~deliver~~ rates. Any performance improvements implemented by the interexchange companies may not be realized by their customers, because the capabilities of the local telephone company equipment may

or may not meet their performance needs. Thus, it is difficult for the interexchange companies to convince potential customers to switch to their equipment or to use their services. These factors ensure the continued market presence of the local telephone company.

Please amend the paragraph beginning on page 4, line 16 as follows:

Fig. 5 illustrates life line components of the ~~FMP~~ ISD.

Please amend the paragraph beginning on page 4, line 17 as follows:

Fig. 6 illustrates life line components of the ~~ISD~~ FMP.

Please amend the paragraph beginning on page 5, line 25 as follows:

Although the possibly massive demands of a cache for user data may make it economically unfeasible to cache data such as movies, the FMP 32 would, preferably, have an internal memory or other data storage that would contain information about each subscriber to which it is linked. For example, a subscriber may not subscribe to all the services the FMP 32 makes available. For example, one subscriber might want its calls, where possible, handled by the interexchange carrier by directly routing them through one of the digital networks (e.g., ATM) owned by the interexchange carrier or other owner of the FMP 32. Another subscriber may prefer to go through the local phone company through the modified DLC 87 for at least some calls depending on the pricing and

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features offered by the competing carriers. This data is preferably stored on such an internal storage at the ~~FM~~ FMP 32. Such data could be updated by the NSP 46 as required. Storing such data, aside from saving bandwidth of external networks, will also speed the handling of calls.

Please amend the paragraph beginning on page 6, at line 9 as follows:

The NSP 36 may provide a massive cache storage for various information that may be provided across the SONET ~~net~~ 42 to the FMP 32 and out to the ISD 22. The NSP 36 and the FMP 32 may collectively define an access network server complex 38. The NSP 36 may be interconnected with multiple FMP's 32. Furthermore, each FMP 32 may interconnect with one or more ISDs 22. The NSP 36 may be located anywhere but is preferably located in a point-of-presence facility. The NSP 36 may further act as a gateway to, for example, any number of additional services. The major tasks of the NSP 46 is to handle connection management, act as an application launcher and provide operation administration maintenance & provisioning.

Please amend the paragraph beginning on page 7, line 18 as follows:

As shown in Fig. 2, in some embodiments the ISD 22 may include a controller 100 which may have any of a variety of elements such as a central processing unit 102, a DRAM 103, an SRAM 104, a ROM 105 and/or an internet protocol (IP) bridge router 106 connecting the

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controller 100 to a system bus 111. The system bus 111 may be connected with a variety of network interface devices 110. The network interface devices 110 may be variously configured to include an integrated services digital network (ISDN) interface 113, an Ethernet interface 119 (e.g., ~~for 28.8 kbs data, 56 kbs data, or ISDN~~), an IEEE 1394 "fire wire" interface 112 (e.g., for digital a videodisc device (DVD)), a ~~TVRC~~ digital subscriber line (DSL) modem interface with 114 (e.g., for a ~~digital subscriber line (DSL)~~ TVRC modem), a residential interface 114, (e.g., standard POTS phone systems such as tip ring), a business interface 116 (e.g., a T1 line and/or PABX interface), a radio frequency (RF) audio/video interface 120 (e.g., a cable television connection), and a cordless phone interface 123 (e.g., a 900 MHZ transceiver). Connected to one of the network interfaces and/or the system bus 111 may be any number of devices such as an audio interface 122 (e.g., for digital audio, digital telephones, digital audio tape (DAT) recorders/players, music for restaurants MIDI interface, DVD, etc.), a digital phone 121, a videophone / user interface 130, a television set-top device 131 and/or other devices. Where the network interface is utilized, it may be desirable to use, for example, the IEEE 1394 interface 112 and/or the Ethernet interface 119.

Please amend the paragraph beginning on page 8, line 7 as follows:

The ISD 22 may be variously configured to provide any number of suitable services. For example, the ISD 22 may offer high fidelity radio channels by allowing the user to select a particular channel and

obtaining a digitized radio channel from a remote location and outputting the digital audio, for example, on audio interface 122, video phone 130, and/or digital phones 121. A digital telephone may be connected to the audio interface 122 such that a user may select any one of a number of digital radio ~~cable~~ channels by simply having the user push a ~~cable~~ channel button on the telephone and have the speaker phone output particular channels. The telephone may be preprogrammed to provide the radio channels at a particular time, such as a wake up call for bedroom mounted telephone, or elsewhere in the house. The user may select any number of services on the video phone and/or other user interface such as a cable set-top device. These services may include any number of suitable services such as weather, headlines in the news, stock quotes, neighborhood community services information, ticket information, restaurant information, service directories (e.g., yellow pages), call conferencing, billing systems, mailing systems, coupons, advertisements, maps, classes, Internet, pay-per-view (PPV), and/or other services using any suitable user interface such as the audio interface 122, the video phone / user interface 130, digital phones, 121 and/or another suitable device such as a settop 131.

Please amend the paragraph beginning on page 13, line 1 as follows:

During normal operation the DSL Facilities Termination subsystem is responsible for providing over-voltage protection. This is the same as

in a convention wire termination. In addition, the FMP 32 includes DSL modems or TVRC modems 80 to convert analog symbols to digital data and vice versa using for example M-PSK or M-QAM modulation/demodulation. These techniques are described in the literature and applications incorporated by reference in the present application.

Please amend the paragraph beginning on page 13, line 14 as follows:

The final output of the termination/modem subsystem is a stream of DSL frames containing higher-layer protocol data. In the CPR CPE-to-network direction. The controller & multiplexer 84 processes the DSL frames it receives from the Facilities Termination subsystem to terminate any link layers associated with the DSL segment of the connection, (in an embodiment) re-construct (e.g. Ipv6) packets from the DSL frames, and separate (IP) packets containing voice, data, and signaling (call-routing or data routing) information.

Please amend the paragraph beginning on page 15, line 17 as follows:

Referring now more particularly to Fig. 5 4A, a termination facility for subscriber lines 30 of access module 70 provides, in addition to line protection 71 and cross connector 73, a line monitor and controller 82. The latter may be a separate component or it may be a programmed function of controller & multiplexer 84. Line monitor controller 82 81

controls the life line switches ~~78 which, although shown schematically as~~ ~~SPDT switches, are preferably DPDT switches~~. When a subscriber link is lost due to malfunction, a corresponding one of life line switches 78 is tripped from a position in which it connects the subscriber line to the modem 80 to a position in which it connects a respective line card 96. A corresponding life line switch 144 in the ISD 22 disconnects an analog telephone 121 from the tip ring interface 142 and connects the analog phone 121 directly to the subscriber lines 30. In these positions, the analog phone 121 is connected to the line card 96 as in ordinary telephone service so that the DLC 87 supplies battery backed up power, ringing, DTMF decoding, etc. This configuration provides normal telephone service through the analog telephone 121.

Please amend the paragraph beginning on page 16, line 3 as follows:

Referring particularly to Fig. 6, in the ISD 22 the life line switch 144 is controlled by a line monitor controller 141. The latter may be a separate part of the ISD 22 ~~(preferably powered by battery in the even of~~ ~~a power outage)~~ or it may be a function of an ISD controller 145 that controls the various functions of the ISD described elsewhere in the present application and in the copending applications incorporated by reference. The line monitoring facilities 141 and ~~82~~ 81 controlling the life line switches 78 and 144 may monitor the integrity of the subscriber link by various means. In one ~~preferred~~ implementation, these line monitors

are battery powered components that listen for a message generated from the opposite end of the subscriber link 30 and, if they don't receive it within a period of time, they go to the default life-line connected states. The switches would also have a power-off state connecting the life line circuit.

Please amend the paragraph beginning on page 16, line 26 as follows:

Under normal operation, the TVRC modems 80 demodulate a symbol (e.g., QAM, PSK, etc.) generated on the subscriber lines 30 to output subscriber data including voice, signaling and user data, and apply the resulting data stream to the digital filters 82. As discussed above, the digital data from the ISDs 22 contain voice, digital information, and signaling from, potentially, many different subscriber equipment all multiplexed into the same data stream, preferably a packet-based protocol as discussed above. At a time when a call is just being dialed by the user, the data stream will contain signaling information (unless a voice-activated dialing feature is being used as discussed further below). At other times, signaling data may be generated automatically by subscriber equipment such as a settop unit in the process of ordering a movie.

Please amend the paragraph beginning on page 22, line 16 as follows:

The following applications, filed concurrently herewith, are hereby incorporated by reference:

1. A Hybrid Fiber Twisted-pair Local Loop Network Service Architecture (Gerszberg 41-3-13 Serial Number 09/001,360);

2. Dynamic Bandwidth Allocation for use in the Hybrid Fiber Twisted-pair Local Loop Network Service Architecture (Gerszberg 42-4-14 Serial Number 09/001,425);

3. The VideoPhone (Gerszberg 43-9-2 Serial Number 09/001,905);

4. VideoPhone Privacy Activator (Gerszberg 44-10-3 Serial Number 09/001,909);

5. VideoPhone Form Factor (Gerszberg 45-11-4 09/001,583);

6. VideoPhone Centrally Controlled User Interface With User Selectable Options (Gerszberg 46-12-5 Serial Number 09/001,576);

7. VideoPhone User Interface Having Multiple Menu Hierarchies (Gerszberg 47-13-6 Serial Number 09/001,908);

8. VideoPhone Blocker (Gerszberg 79-38-26 Serial Number 09/001,353);

9. VideoPhone Inter-com For Extension Phones (Gerszberg 48-14-7 Serial Number 09/001,358);

10. Advertising Screen Saver (53-17 Serial Number 09/001,574);

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11. ~~VideoPhone FlexiView Advertising~~ Information Display for Visual Communication Device (~~Gerszberg 49-15-8~~ Serial Number 09/001,906);

12. VideoPhone Multimedia Announcement Answering Machine (~~Gerszberg 73-32-20~~ Serial Number 09/001,911);

13. VideoPhone Multimedia Announcement Message Toolkit (~~Gerszberg 74-33-21~~ Serial Number 09/001,345);

14. VideoPhone Multimedia Video Message Reception (~~Gerszberg 75-34-22~~ Serial Number 09/001,362);

15. VideoPhone Multimedia Interactive Corporate Menu Answering Machine Announcement (~~Gerszberg 76-35-23~~ Serial Number 09/001,575);

16. VideoPhone Multimedia Interactive On-Hold Information Menus (~~Gerszberg 77-36-24~~ Serial Number 09/001,356);

17. VideoPhone Advertisement When Calling Video Non-enabled VideoPhone Users (~~Gerszberg 78-37-25~~ Serial Number 09/001,361);

18. Motion Detection Advertising (~~Gerszberg 54-18-10~~ Serial Number 09/001,355);

19. Interactive Commercials (~~Gerszberg 55-19~~ Serial Number 09/001,578);

20. VideoPhone Electronic Catalogue Service (~~Gerszberg 50-16-9~~ Serial Number 09/001,421);

21. ~~A Facilities Management Platform For Hybrid Fiber Twisted-pair Local Loop Network, Service Architecture~~ A Multifunction Interface Facility Connecting Wideband Multiple Access Subscriber Loops With Various Networks (~~Barzegar 18-56-17~~ Serial Number 09/001,356);

~~22. Multiple Service Access on Single Twisted-pair (Barzegar 16-51-15);~~

2~~2~~3. Life Line Support for Multiple Service Access on Single Twisted-pair (~~Barzegar 17-52-16~~ Serial Number 09/001,343);

2~~3~~4. A Network Server Platform (NSP) For a Hybrid Fiber Twisted-pair (HFTP) Local Loop Network Service Architecture (~~Gerszberg 57-4-2-2-4~~ Serial Number 09/001,582);

2~~4~~5. A Communication Server Apparatus For Interactive Commercial Service (~~Gerszberg 58-20-11~~ Serial Number 09/001,344);

2~~5~~6. ~~NSP Multicast, PPV Server~~ NSP Based Multicast Digital Program Delivery Services (~~Gerszberg 59-21-12~~ Serial Number 09/001,580);

2~~6~~7. NSP Internet, JAVA Server and VideoPhone Application Server (~~Gerszberg 60-5-3-22-18~~ Serial Number 09/001,354);

2~~7~~8. NSP WAN Interconnectivity Services for Corporate ~~Telecommuters~~ Telecommuting (~~Gerszberg 71-9-7-4-21-6~~ Serial Number 09/001,540);

2~~8~~9. NSP Telephone Directory White-Yellow Page Services (~~Gerszberg 61-6-4-23-19~~ Serial Number 09/001,426);

29~~30~~. NSP Integrated Billing System For NSP services and Telephone services (~~Gerszberg 62-7-5-24-20~~ Serial Number 09/001,359);

30~~1~~. Network Server Platform / Facility Management Platform Caching Server (~~Gerszberg 63-8-6-3-5~~ Serial Number 09/001,419);

31~~2~~. An Integrated Services Director (ISD) ~~For HFTP Local Loop Network Service Architecture~~ Overall Architecture (~~Gerszberg 72-36-22-12~~ Serial Number 09/001,417);

32~~3~~. ISD ~~and VideoPhone Customer Premise~~ /VideoPhone (Customer Premises) Local House Network (~~Gerszberg 64-25-34-13-5~~ Serial Number 09/001,418);

33~~4~~. ISD Wireless Network (~~Gerszberg 65-26-35-14-6~~ Serial Number 09/001,363);

34~~5~~. ISD Controlled Set-Top Box (~~Gerszberg 66-27-15-7~~ Serial Number 09/001,424);

35~~6~~. Integrated Remote Control and Phone (~~Gerszberg 67-28-16-8~~ Serial Number 09/001,423);

36<u>7</u>. Integrated Remote Control and Phone User Interface (~~Gerszberg 68-29-17-9~~ Serial Number 09/001,420);

37<u>8</u>. Integrated Remote Control and Phone Form Factor (~~Gerszberg 69-30-18-10~~ Serial Number 09/001,910);

38<u>9</u>. VideoPhone Mail Machine (Attorney Docket No. 3493.73170);

39<u>40</u>. Restaurant Ordering Via VideoPhone (Attorney Docket No. 3493.73171);

40<u>1</u>. Ticket Ordering Via VideoPhone (Attorney Docket No. ~~3493.73712~~);

41<u>2</u>. Multi-Channel Parallel/Serial Concatenated Convolutional Codes And Trellis Coded Modulation Encode/Decoder (~~Gelblum 4-3~~ Serial Number 09/001,342);

42<u>3</u>. Spread Spectrum Bit Allocation Algorithm (~~Shively 19-2~~ Serial Number 09/001,842);

43<u>4</u>. Digital Channelizer With Arbitrary Output Frequency (~~Helms 5-3~~ Serial Number 09/001,581);

44<u>5</u>. Method And Apparatus For Allocating Data Via Discrete Multiple Tones (~~filed 12/22/97, Attorney Docket No. 3493.20096 Sankaranarayanan 1-1~~ Serial Number 08/997,167); <u>and</u>

45<u>6</u>. Method And Apparatus For Reducing Near-End Cross Talk In Discrete Multi-Tone Modulators/Demodulators (~~filed~~

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Barzega─ ─al. - Continuation of Serial No. ██ ██01,343

12/22/97, Attorney Docket No. 3493.37219—Helms 4-32-18

Serial Number 08/997,176).